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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,326	08/31/2006	Naoki Nishiura	VX062753 PCT	9434

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EXAMINER	
FANG, SHANE	
ART UNIT	PAPER NUMBER
1766	

MAIL DATE	DELIVERY MODE
01/04/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,326	NISHIURA ET AL.	
	Examiner	Art Unit	
	SHANE FANG	1766	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10 and 12-32* is/are pending in the application.

4a) Of the above claim(s) *1-6 and 17-32* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7,8,10 and 12-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

- No amendment
- The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
- The previous ODP rejections 12/441980 have **been maintained.**
- The previous 103 rejections of claims 7-8, 10, and 12-16 over Kanetake et al. in view of Economy et al. in further view of Hasegawa et al. and evidenced by Wilson et al. have **been maintained.**

Claim Rejections - Double Patenting

1. Claims 7-8, 10, and 12-16 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 4-8 of copending Application No. 12/441980. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

See ¶2 of the last action.

Claim Rejections - 35 USC § 103

2. Claims 7-8, 10, and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanetake et al. (US 6303054, listed on previous 892) in view of Economy et al. (US 4467000) and in further view of Hasegawa et al. (Macromolecules

1999, 387-396 as listed on IDS) and evidenced by Wilson et al. (Polyimide, Blackie & Son Ltd, 1990, Pg. 1-2, scheme 1.2, listed on previous 892).

See ¶4 of the last action.

Response to Arguments

The argument for allowance of amended claims has been fully considered but not persuasive.

The applicant has traversed the ODP rejection by arguing 12/441980 is a later filed application (Pg.2), and therefore the rejection should be withdrawn. Applicants" are reminded that, if two (or more) pending applications are filed, in each of which a rejection of one claimed invention over the other on the ground of provisional **>nonstatutory< double patenting (ODP) is proper, the >provisional< ODP rejection will be made in each application. If the >provisional< ODP rejection is the only rejection remaining in the earlier-filed of the two pending applications, (but the later-filed application is rejectable on other grounds), the examiner should then withdraw *>the provisional ODP< rejection and permit the earlier-filed application to issue as a patent without a terminal disclaimer. If the >provisional< ODP rejection is the only rejection remaining in the later-filed application, (while the earlier-filed application is rejectable on other grounds), a terminal disclaimer must be required in the later-filed application, before the >provisional< ODP rejection can be withdrawn. If the >provisional< ODP rejections in both applications are the only rejections remaining in those applications, the examiner should then withdraw the >provisional< ODP rejection in the earlier-filed

application thereby permitting that application to issue without need of a terminal disclaimer. A terminal disclaimer must be required in the later-filed application before the >provisional< ODP rejection can be withdrawn and the application be permitted to issue. See MPEP- 1490 (V). D, 804B.2. In this case, we have other rejections remaining; rejections have to be maintained and addressed (not held in abeyance, as requested) as required by the MPEP; it is possible that a double patenting rejection in the later case may not be appropriate, therefore why would applicants' file a TD in that case if one cannot be made; and finally, it is not the office's issue/problem that this case was filed "much earlier" than the case cited above. For these reasons the ODP is deemed proper and maintained.

The applicant has argued the cited references are directed to different technologies and/or fields of technologies (Pg.4). The examiner disagrees. All cited references are directed to the field of applicant's endeavor. Kanatake (primary reference) pertains to polyamic acid composition for carbon filled polyimide films (claims). Hasegawa pertains to polyamic acid composition for making polyimide films (Pg. 388, left col.). Wilson (as evidence) teaches general principle of polyamic acid conversion to polyimide films. As to Economy, by the broadest interpretation, coating on a substrate can be considered as a film on a substrate. There is no evidence showing the coating of Economy would not become a free standing film if the coating is released from the substrate. Instant 0264-0270 describes the polyimide film is prepared by casting the precursor solution on a rotation drum (substrate) to form a coating

followed by curing and releasing. Furthermore, flatness is an issue the present invention attempts to solve (instant 0008), and Economy solves the same problem by improving the planarization. Economy is reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. The applicant acknowledged Hesegawa, Kanetake, and Wilson are directed to making of polyimide via polyamic acid precursor; and the applicant further acknowledged Economy is directed to a coating composition comprising polyamic acid oligomer and tetracarboxylic acid diester. In addition, Economy as the secondary reference does not exclude "film", so it does not teach away from the present invention. The present invention does not exclude tetracarboxylic acid diester as part of the claimed composition. Claim 7 claims the polyamic acid oligomer only having units from aromatic tetracarboxylic acid derivatives and aromatic diamines. Claim 7 does not exclude other component of the claimed composition such as tetracarboxylic acid diester. In light of these, all cited references do not teach away from the present invention and can be combined to meet the claims.

The applicant has merely argued using claimed oligomers of polyamic acid would not be obtained and the resultant polyimide films would have suitable properties, because the “addition-condensation reaction” would be suitably performed (Material 1 Pg.4). This argument is non-persuasive for not showing evidence. Furthermore, the additional polymerization is commonly refers to free radical polymerization. The mechanism of polymerization of polyamic acid (or its derivatives) is simultaneous

equilibrium condensation for MW growth and imide ring closure (local reaction, not polymerization).

The applicant has merely argued Economy using tetracarboxylic acid diester would lead to a high MW polyimide that is different form the claimed invention (Material 2, Pg.4). This argument is non-persuasive for not showing evidence. The oligomer of polyamic acid of Economy (MW of 1-5k) meets the claimed one. Furthermore, the low MW polyimide (not its precursor) is not claimed.

The applicant has argued the disadvantage of using high MW polyamic acid (Material 3, Pg.4). This argument is non-persuasive for not pointing out the deficiency of the reference. The oligomer of polyamic acid of Economy meets the claimed one.

The applicant has further attacked Economy, because it directs to coating (not films of as an indispensible component (Pg. 6-7). Again, the present invention does not exclude tetracarboxylic acid diester as part of the claimed composition. Claim 7 claims the polyamic acid oligomer only having units from aromatic tetracarboxylic acid derivatives and aromatic diamines. The oligomer of polyamic acid of Economy (MW of 1-5k) meets the claimed one. By the broadest interpretation, coating on a substrate can be considered as a film on a substrate. There is no evidence showing the coating of Economy would not become a free standing film if released from the substrate. Thus, Economy as the secondary reference does not exclude "film", so it does not teach away from the present invention. All cited references are directed to the field of applicant's endeavor, *i.e.*, a polyimide precursor composition.

The applicant further argued no reason to combine Economy with other references (Pg. 7). The examiner disagrees. Economy discloses the composition would yield a polyimide film and coating with good planarization, mechanical and thermal stability, and excellent flexibility (motivation).

The applicant merely argued combining cited references would not yield a tough polyimide films having high yield stress and high tensile strength (Pg. 8). This argument is non-persuasive for not showing evidence.

Therefore, as to claims 7-8, 10, and 12-16, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the composition and process disclosed by Kanatake, replaced the polyamic acid with the oligomeric polyamic acid composition in view of Economy, and further replaced the PMDA-ODA polyamic acid of Economy with the asymmetric/symmetric dianhydride ratio in view of Hasegawa, because the resultant composite film would have improved good planarization, thermal stability, and excellent flexibility, thermal processability and retained T_g, and further improved mechanical properties.

Therefore, the previous 103 rejections of claims 7-8, 10, and 12-16 over Kanetake et al. in view of Economy et al. in further view of Hasegawa et al. and evidenced by Wilson et al. have **been maintained.**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP §

706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHANE FANG whose telephone number is (571)270-7378. The examiner can normally be reached on Mon.-Thurs. 8 a.m. to 6:30 p.m. EST.. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sf

/RANDY GULAKOWSKI/
Supervisory Patent Examiner, Art Unit 1766